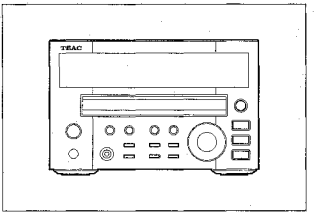


TEAC

SERVICE MANUAL

CR-H100

CD/TUNER/AMPLIFIER

NOTES

- PC boards shown are viewed from parts side.
- The parts with no reference number or parts number in the exploded views are not supplied.
- As regards the resistors and capacitors, refer to the circuit diagrams contained in this manual.
- ⚠ Parts marked with this sigh are critical components. They must be replaced with identical components - refer to the appropriate parts list and ensure exact replacement.
- Parts of [ ] mark can be used only with the version designated.
  [J] : JAPAN [US] : U.S.A. [C] : CANADA
  [E] : EUROPE [UK] : U.K. [GE] : GENERAL EXPORT

CONTENTS

SPECIFICATIONS 2
IC PIN FUNCTION 3
MEASUREMENTS AND ADJUSTMENTS 7
WIRING DIAGRAM 17
BLOCK DIAGRAM 19
SCHEMATIC DIAGRAM 21
PRINTED CIRCUIT BOARDS 27
MECHANISM ASS'Y 31
EXPLODED VIEW 35
ELECTRICAL PARTS LIST 38

Specifications

AMP Section

Power output	: 20W + 20W (6Ω, 1 kHz)
Total Harmonic Distortion	: 5% (1 kHz)
S/N Ratio (Input Short)	: 85 dB (IHF-A)
Input Sensitivity	
LINE	: 200 mV/22 kΩ
Output level	
Tape	: 180 mV/2.2 kΩ
Frequency Response	: 20 Hz to 40 kHz (-3 dB)
Tone control	
Bass	: 9 dB (100 Hz)
Treble	: 9 dB (10 kHz)
Cross-Talk (Separation)	
CD (Linear)	: 50 dB (1 kHz)
Other Ch.	: 65 dB (1 kHz)

General

Power Consumption	: 60W
Power Requirements	: 120V, 60Hz [US] : 230V, 50Hz [EUR] : 100V, 50-60Hz [J]
Dimensions (W x H x D)	: 175 X 115 X 325 mm
Weight (net)	: 3.6 kg

Standard Accessories

Remote Control Unit	: 1
Operator's Manual	: 1
AM Loop Antenna	: 1
FM Antenna	: 1

FM Section

Tuning Range	: 87.5 MHz - 108.0 MHz
Usable Sensitivity (30 dB S/N)	: 11.2 dBf (2uV)
Distortion	
Mono	: 0.5%
Stereo	: 1.0%
Signal-to-Noise Ratio	
Mono	: 65 dB
Stereo	: 60 dB
Frequency Response	: 30 - 15 kHz (-3 dB)

AM Section

Tuning Range	: 530 kHz - 1,720 kHz
AM Sensitivity	: 600 uV/m
Selectivity +/-9K	: 25 dB
Frequency Response	: 80 - 2.3 kHz
Signal-to-Noise Ratio	: 40 dB (60mV/m)

CD PLAYER Section

Signal-to-Noise Ratio	: 80 dB (with IHF "A" Filter)
T.H.D	: 0.05% (1 kHz, 20 kHz LPF)
Channel Separation	: 55 dB (1 kHz)
Channel Balance	: 1 dB
Frequency Response	: 17 Hz - 20 kHz (±1.5 dB)
Wow Flutter	: Bellow Measurable

* Improvements may result in specification or feature changes without notice.

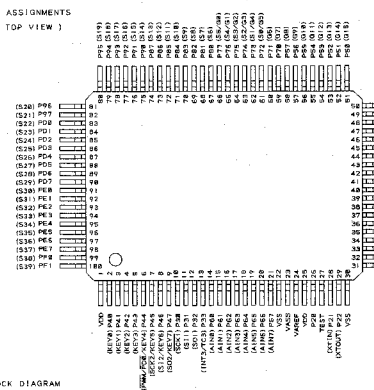
IC PIN FUNCTION (IC : ANAM1290ACT)

PIN No.	NAME	I/O	DESCRIPTION
1, 25	VDD	-	POWER SUPPLY (+5V)
2	CD BUS 0	I/O	BUS for CD DATA
3	CD BUS 1	I/O	BUS for CD DATA
4	CD BUS 2	I/O	BUS for CD DATA
5	CD BUS 3	I/O	BUS for CD DATA
6	BUCK	I/O	BUS for CD CLOCK
7	CCE	I/O	BUS for CD CHIP ENABLE
8	RESET	I	RESET for CD
9	MUTE	O	MUTE for CD SINGLE
10	ME-MOT OPEN	O	MECHA-MOTOR OPEN
11	ME-MOT CLOSE	O	MECHA-MOTOR CLOSE
12	DATA	O	EUROPE VERSION RDS DATA CONTROL PORT
13	CLOCK	O	
14	STEREO IN	I	STEREO IN CONTROL INPUT
15	TUNED	I	TUNED CONTROL INPUT
17	PROTECTOR	I	PROTECTOR IN PORT
20, 21	KEY MATRIX	I	KEY MATRIX PORTS
22,23,27,30	VSS	-	GND
24	VAREF	-	A/D CONVERTOR REFERENCE VOLTAGE
26	BACK UP	I	BACK-UP MODE CONTROL INPUT
28, 29	X-TAL	I	32.768kHz SUB CLOCK CONNECTING PORT
31	X IN	I	8MHz CRYSTAL CONNECTING TERMINAL
32	X OUT	O	
33	RESET	I	SYSTEM RESET PULSE INPUT
34	REMOTE IN	I	REMOTE CONTROL SIGNAL INPUT
35	BUS IN	I	REMOTE CONTROL SIGNAL INPUT
36	BUS OUT	O	REMOTE CONTROL SIGNAL INPUT
38	SPEAKER	O	SPEAKER ON/OFF PORT
41	CE	O	PLL DATA CONTROL PORT
42	DATA OUT	O	
43	CLOCK	O	
44	DATA IN	I	
45	CLOCK	O	TDA7318D DATA CONTROL PORT
46	DATA	O	
47	POWER	O	POWER ON/OFF
48	MUTE	O	SIGNAL MUTE
50	VFL		(-33V) NEGATIVE POWER SUPPLY FOR FIP BLINKING
52 ~ 60	GRID	O	FIP GRID CONTROL OUTPUTS
61 ~ 82	SEGMENT	O	FIP SEGMENT CONTROL OUTPUTS
83 ~ 87		I	AREA OPTION
89	CD POWER	O	CD POWER ON/OFF PORT
90	ON/STBY LED	O	ON/STANDBY LED CONTROL PORT
91	TAPE 'H'	O	ON TAPE FUNCTION 'H' OUTPUT PORT
93	MD 'H'	O	ON MD FUNCTION 'H' OUTPUT PORT
96, 97	JOG CONTROL	I	VOL/BAL/BASS/TRE CONTROL JOG INPUT PORT
98	CD CLOSE SW	I	
99	CD OPEN SW	I	For CD MECHANISM SW
100	CD LIMIT SW	I	

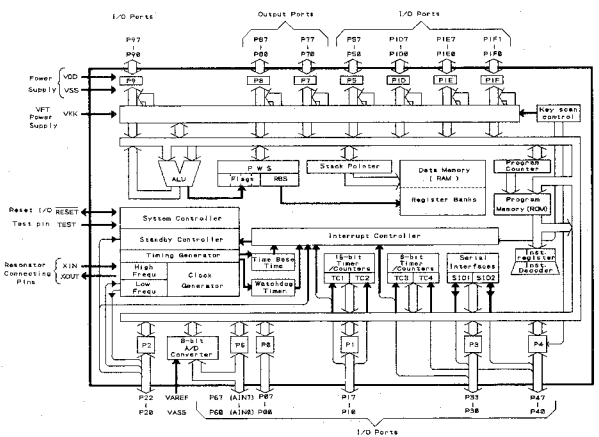
[U-COM FUNCTION : BVIANAM126?T]

PIN ASSIGNMENTS

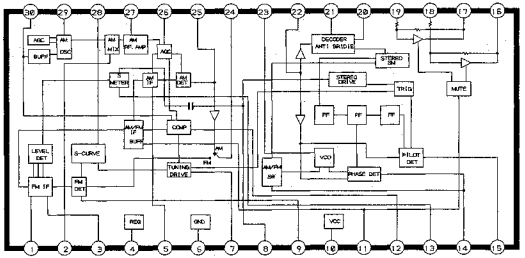
(TOP VIEW)



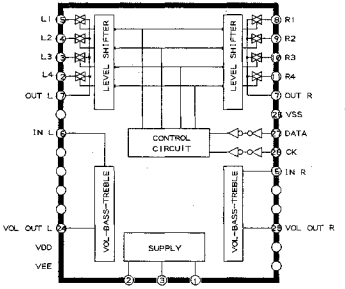
BLOCK DIAGRAM



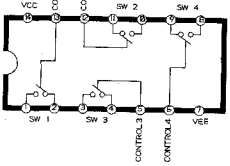
IC12 (TUNER) LA1835M BLOCK DIAGRAM



TDA 7318D



IC22 (INPUT) LC4966



■ ALIGNMENT INSTRUCTIONS

EQUIPMENT NEEDED:

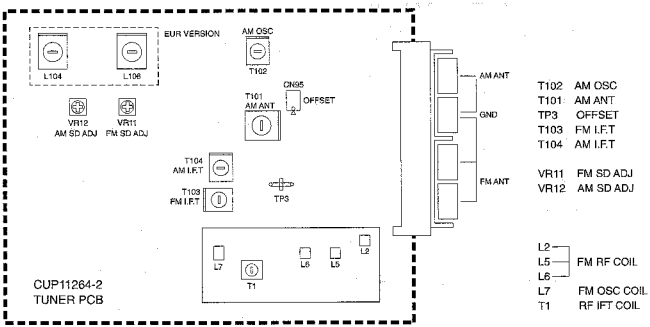
AM Signal Generator
FM Signal Generator
Oscilloscope
VTVM(AC, DC)
Test loop antenna (AW Adjustment)
Dummy antenna (FM Adjustment)
Stereo signal modulator
Frequency counter
Distortion analyser

IMPORTANT

1. Check power-source voltage.
2. Set the function switch to band aligned.
3. Keep the signal input as low as possible to adjust accurately.
4. Modulation and modulation frequency.

Item / Band	Modulation	Modulation frequency
AM	30%	400Hz
FM	100%(75KHz Dev.)	400Hz

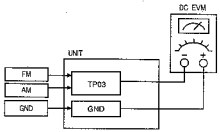
■ ADJUSTMENT POINT



MEASUREMENTS AND ADJUSTMENTS

1. FM, AM TRACKING VOLTAGE ADJUSTMENTS

(FM, AM) DC VOLTMETER..... CONNECT TO TEST POINT TP1 and GND

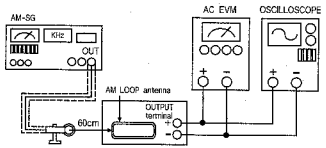


NO.	Band	Frequency	Adjust for	Adjustment
1	FM	87.50MHz	1.5V	L7
2	AM	530KHz	1V	T702

2. AM RF ADJUSTMENT

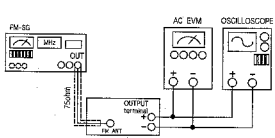
Signal Generator..... Connects to the AM ANT. Coil through the loop antenna.
Adjust for the indication of VTVM of the wave form of scope to be maximum.

BAND	Step	Frequency	Adjust for	Adjustment
AM	1	610KHz	Maximum sensitivity	T101, T104
	2	1510KHz	Maximum sensitivity	C127
	3	Repeat steps 1 and 2 several times.		



3. FM-RF ADJUSTMENT

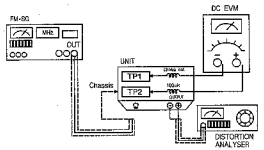
Signal Generator..... Connect to FM ANT JACK (FM IN) through the dummy.



NO.	Frequency	Adjust for	Adjustment
1	90.10MHz	Maximum Sensitivity	L2, L5, L6
2	Repeat step 1 several times.		

4. FM MONO DISTORTION ADJUSTMENT

DC VOLT METER.....Connect to TP1(-), TP2(+) Through the choke coil (100μH)
Signal Generator.....Connect to FM ANT Jack (FM IN) through the dummy.
Distortion Meter.....Connect to the output.



NO.	Frequency	Adjust for	Adjustment
1	100.10MHz	DC Voltmeter 0V	T103
2	100.10MHz	Minimum T.H.D	T103
3	Repeat steps 1 and 2 Several times.		

5. FM/AM AUTO STOP LEVEL ADJUSTMENT

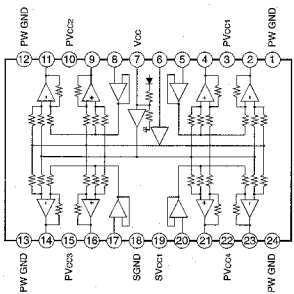
FM SIGNAL GENERATOR .....Connect to FM ANT Jack (FM IN) through the dummy
AM SIGNAL GENERATOR.....Connect to AM ANT, Coil through the Loop antenna

BAND	STEP	SIGNAL GENERATOR	Adjust for	Adjustment
FM	1	100.1MHz 30dB	TUNED Display OFF	VR11
	2	100.1MHz 30dB	TUNED Display ON	VR11
AM	1	1000KHz 80dB	TUNED Display OFF	VR12
	2	1000KHz 80dB	TUNED Display ON	VR12

TA2092N (POWER DRIVER)

PIN No.	NAME	DESCRIPTION
1	PW GND	Power GND Connected to substrate. ①, ⑫, ⑬, ㉔ pin are connected inside.
2	OUT (-) 1	Inverted output for CH1
3	P_{VCC1}	Supply terminal of output stage for CH1 Supply terminal of output stage are not connected to other channel terminal.
4	OUT (+) 1	Non-inverted output for CH1
5	V_{IN1}	Input for CH1. Not biased inside
6	V_{RI}	Input reference voltage Under condition of $V_{RI} \leq 1.8V$, internal bias circuit is shut off. No signal input condition : $V_{RI} = V_{IN}$
7	V_{CI}	Output reference voltage. $V_{OUT} = V_{CI} = (V_{CC}-V_F)/2$
8	V_{IN2}	Input for CH2
9	OUT (+) 2	Non-inverted output for CH2
10	P_{VCC2}	Supply terminal of output stage for CH2
11	OUT (-) 2	Inverted output for CH2
12	PW GND	Power GND
13	PW GND	Power GND
14	OUT (-) 3	Inverted output for CH3
15	P_{VCC3}	Supply terminal of output stage for CH3
16	OUT (+) 3	Non-inverted output for CH3
17	V_{IN3}	Input for CH3
18	S GND	Supply terminal of small signal GND
19	S V_{CC}	Small signal GND
20	V_{IN4}	Input for CH4
21	OUT (+) 4	Non-invered output for CH4
22	P_{VCC4}	Supply terminal of output stage for CH4
23	OUT (-) 4	Inverted output for CH4
24	PW GND	Power GND

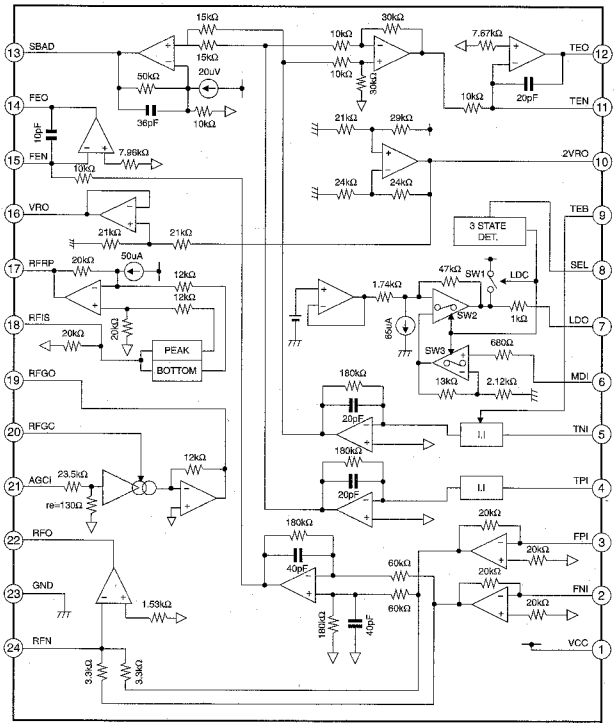
BLOCK DIAGRAM



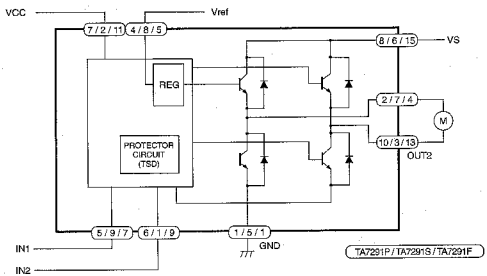
TA2109F (RF/DIGITAL SERVOR)

PIN No.	NAME	I/O	DESCRIPTION	REMARK
1	VCC	-	Power supply input terminal	-
2	FNI	I	Main beam I-V amp input terminal	Connected to pin diode A,C
3	FPI	I	Main beam I-V amp input terminal	Connected to pin diode B,D
4	TPI	I	Sub beam I-V amp input termianl	Connected to pin diode F
5	TNI	I	Sub beam I-V amp input termianl	Connected to pin diode E
6	MDI	I	Monitor phono diode amp input terminal	Connected to monitor photo diode
7	LDO	O	Laser diode amp output terminal	Connected to laser control circuit
8	SEL	I	Laser diode control signal input terminal and APC circuit ON/OFF control signal input terminal	3 signal input (Vcc, Hi-Z, GND)
9	TEB	I	Tracking error balance adjustment signal input terminal. Controlled by 3 PWM signal (PWM carrier = 88.2 kHz)	3 signal input (2 VREF, VR, GND)
10	2VRO	O	Reference voltage (2 VREF) output terminal 2 VREF = 4.2V when Vcc = 5V	-
11	TEN	I	TE amp negative input terminal	Connected to TEO through feedback register
12	TEO	O	TE error signal output terminal	-
13	SBAD	O	Sub beam adder signal output terminal	-
14	FEO	O	Focus error signal output terminal	-
15	FEN	I	FE amp negative input terminal	Connected to FEO through feedback register
16	VRO	O	Reference voltage (VREF) output terminal VREF = 2.1V when Vcc = 5V	-
17	RFRP	O	Track count signal output terminal	-
18	RFIS	I	RFRP detect circuit input terminal	Connected to RFO through condenser
19	RFGO	O	RF gain signal output terminal	-
20	RFGC	I	RF amplitude adjustment control signal input terminal. Controlled by 3 PWM signal (PWM carrier = 88.2 kHz)	3 signal input (2 VREF, VR, GND)
21	AGCI	I	RF signal amplitude adjustment amp input terminal	Connected to RFO through condenser
22	RFO	O	RF signal output terminal	-
23	GND	-	Ground terminal	-
24	RFN	I	RF amp negative input terminal	-

TA2109F (RF/DIGITAL SERVOR)



TA7291S (Bridge Driver)



PIN No.			SYMBOL	FUNCTIONAL DESCRIPTION
P	S	F		
7	2	11	Vcc	Supply voltage terminal for Logic
8	6	15	Vs	Supply voltage terminal for motor drive
4	8	5	Vref	Supply voltage terminal for control
1	5	1	GND	GND terminal
5	9	7	IN1	Input terminal
6	1	9	IN2	Input terminal
2	7	4	OUT1	Output terminal
10	3	13	OUT2	Output terminal

- P Type : PIN ③, ⑨ : NC
- S Type : PIN 4 : NC
- F Type : PIN ②, ③, ⑥, ⑧, ⑩, ⑫, ⑭, and ⑯ : NC
- For F Type, We recommend FIN to be connected to the GND.

TC9432AF (Digital Signal Processor)

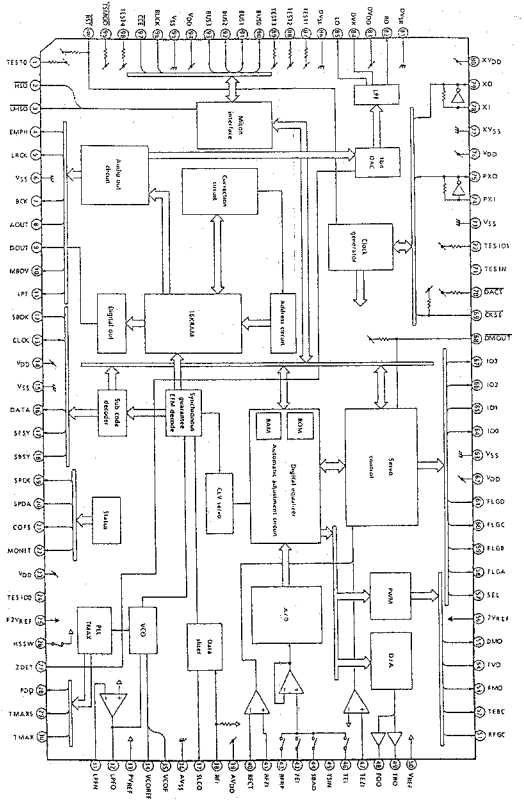
PIN No.	NAME	I/O	FUNCTIONAL DESCRIPTION	REMARKS
1	TEST0	-	Test mode terminal. Normally, keep at open.	With pull-up resistor.
2	$\overline{\text{HSO}}$	O	Playback speed mode flag output terminal.	-
3	$\overline{\text{UHSO}}$	O		
4	EMPH	O	Subcode Q data emphasis flag output terminal. Emphasis ON at "H" level and OFF at "L" level. The output polarity can invert by command.	-
5	LRCK	O	Channel clock output terminal. (44.1 kHz) L-ch at "L" level and R-ch at "H" level. The output polarity can invert by command.	-
6	Vss	-	Digital GND terminal.	-
7	BCK	O	Bit clock output terminal. (1.4112 MHz)	-
8	AOUT	O	Audio data output terminal.	-
9	DOUT	O	Digital data output terminal.	-
10	MBOV	O	Buffer memory over signal output terminal. Over at "H" level.	-
11	IPF	O	Correction flag output terminal. At "H " level, AOUT output is made to correction impossibility by C2 correction processing.	-
12	SBOK	O	Subcode Q data CRCC check adjusting result output terminal. The adjusting result is OK at "H" level.	-
13	CLCK	I/O	Subcode P~W data readout clock input/output terminal. This terminal can select by command bit.	-
14	VDD	-	Digital power supply voltage terminal.	-
15	Vss	-	Digital GND terminal.	-
16	DATA	O	Subcode P~W data output terminal.	-
17	SFSY	O	Playback frame sync signal output terminal.	-
18	SBSY	O	Subcode block sync signal output terminal.	-
19	SPCK	O	Processor status signal readout clock output terminal.	-
20	SPDA	O	Processor status signal output terminal.	-
21	COFS	O	Correction frame clock output terminal. (7.35 kHz)	-
22	MONIT	O	Internal signal (DSP internal flag and PLL clock) output terminal. Selected by command.	-
23	VDD	-	Digital power supply voltage terminal.	-
24	TESIO0	I	Test input/output terminal. Normally, keep at "L" level.	-
25	P2VREF	-	PLL double reference voltage supply terminal.	-
26	HSSW	O	2/4 times speed at "VREF" voltage.	2-state output (PVREF,HiZ)
27	ZDET	O	1 bit DA converter zero detect flag output terminal.	-
28	PDO	O	Phase difference signal output terminal of EFM signal and PLCK signal.	3-state output (P2VREF,PVREF,Vss)
29	TMAXS	O	TMAX detection result output terminal. Selected by command bit (TMPS).	-
30	TMAX	O	TMAX detection result output terminal. Selected by command bit (TMPS).	3-state output (P2VREF,HiZ,Vss)

$\overline{\text{UHSO}}$	$\overline{\text{HSO}}$	PLAYBACK SPEED
H	H	Normal
H	L	2 times
L	H	4 times
L	L	-

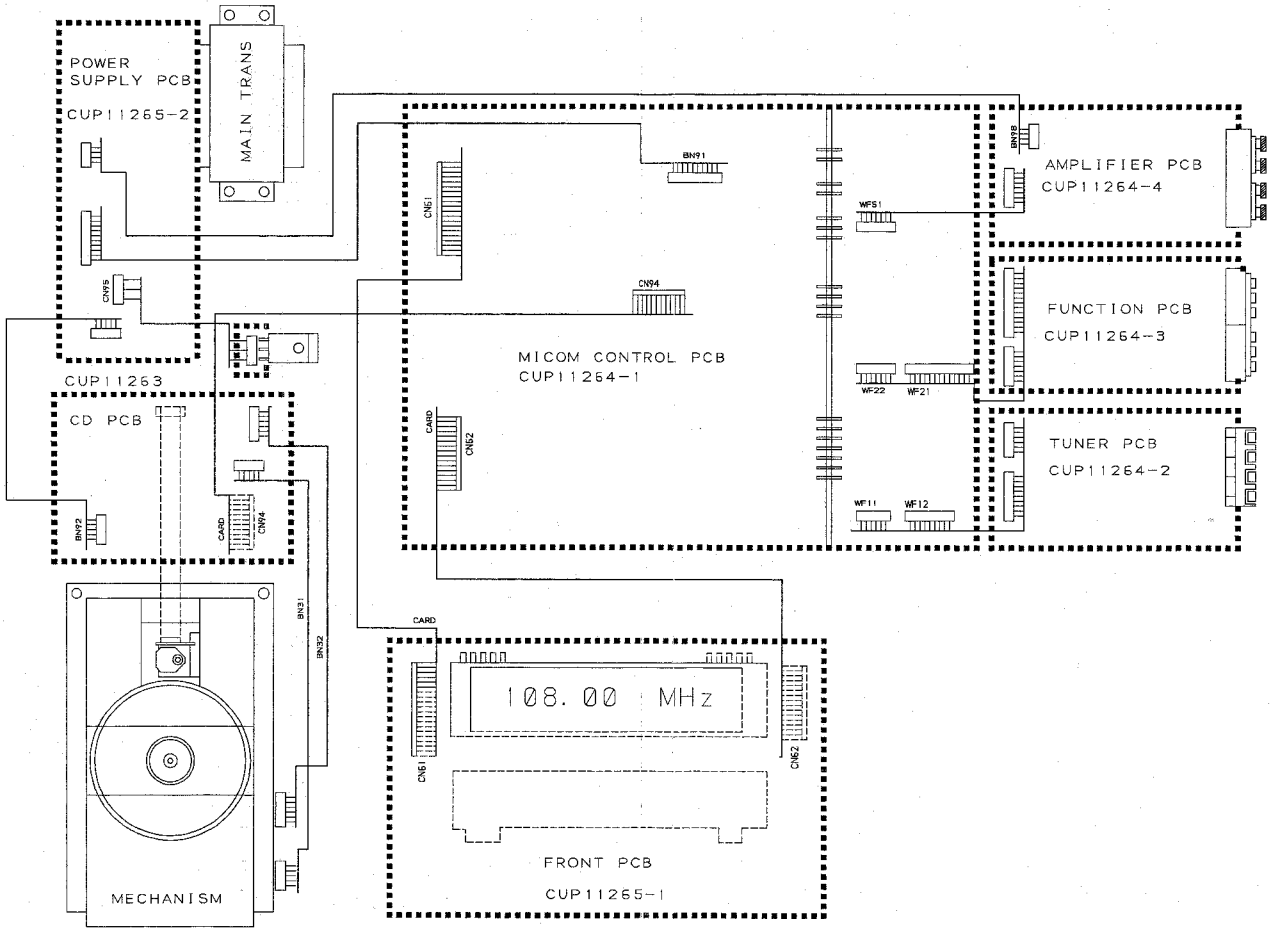
DIFFERENCE RESULT	TMAX OUTPUT
Longer than fixed freq.	"P2VREF"
Shorter than fixed freq.	"Vss"
Within the fixed freq.	"HiZ"

PIN No.	NAME	I/O	FUNCTIONAL DESCRIPTION	REMARKS
31	LPFN	I	LPF amplifier inverting input terminal for PLL.	Analog input.
32	LPFO	O	LPF amplifier output terminal for PLL.	Analog output.
33	PVREF	-	PLL reference voltage supply terminal.	-
34	VCOREF	I	VCO center frequency reference level terminal. Normally, keep at "PVREF" level.	-
35	VCOF	O	VCO filter terminal.	Analog output.
36	AVSS	-	Analog GND terminal.	-
37	SLCO	O	Data slice level output terminal.	Analog output.
38	RFI	I	RF signal input terminal.	Analog input (Zin : selected by command)
39	AVDD	-	Analog power supply voltage terminal.	-
40	RFCT	I	RFRP signal center level input terminal.	Analog input (Zin : 50kΩ)
41	RFZI	I	RFRP zero cross input terminal.	Analog input.
42	RFRP	I	RF ripple signal input terminal.	Analog input.
43	FEI	I	Focus error signal input terminal.	Analog input.
44	SBAD	I	Sub-beam adder signal input terminal.	Analog input.
45	TSIN	I	Test input terminal. Normally, keep at "VREF" level.	Analog input.
46	TEI	I	Tracking error signal input terminal. Track in at tracking servo on.	Analog input.
47	TEZI	I	Tracking error zero cross input terminal.	Analog input (Zin : 10kΩ)
48	FOO	O	Focus servo equalizer output terminal.	Analog output (2VREF-AVSS)
49	TRO	O	Tracking servo equalizer output terminal.	-
50	VREF	-	Analog reference voltage supply terminal.	-
51	RFGC	O	RF amplitude adjustment control signal output terminal.	3-state PWM signal output. (2VREF, VREF, VSS) (PWM carrier = 88.2 kHz)
52	TEBC	O	Tracking balance control signal output terminal.	
53	TEBC	O	Feed equalizer output terminal.	
54	TEBC	O	Speed error signal or feed search equalizer output terminal.	
55	DMO	O	Disk equalizer output terminal. (PWM carrier = 88.2 kHz for DSP, Synchronize to PXO)	3-state PWM signal output.(2VREF, VREF, VSS)
56	2VREF	-	Analog double reference voltage supply terminal.	-
57	SEL	O	APC circuit ON/OFF indication signal output terminal. At the laser on time, UHF = L at "HiZ" level and UHF = H at "H" level.	-
58	FLGA	O	External flag output terminal for internal signal. Can select signal from TEZC, FOON, FOK and RFZC by command.	-
59	FLGB	O	External flag output terminal for internal signal. Can select signal from DECT, FOON, FMON and RFZC by command.	-
60	FLGC	O	External flag output terminal for internal signal. Can select signal from TRON, TRSR, FOK and SRCH by command.	-
61	FLGD	O	External flag output terminal for internal signal. Can select signal from TRON, DMON, HYS and SHC by command.	-
62	VDD	-	Digital power supply voltage terminal.	-
63	VSS	-	Digital GND terminal.	-
64	IO0	I/O	General I/O terminal. Can change over input port or output port by command. At the input mode time can readout a state of terminal (H/L) by read command. At the output mode time can control a state of terminal (H/L/HiZ) by command.	-
65	IO1			
66	IO2			
67	IO3			

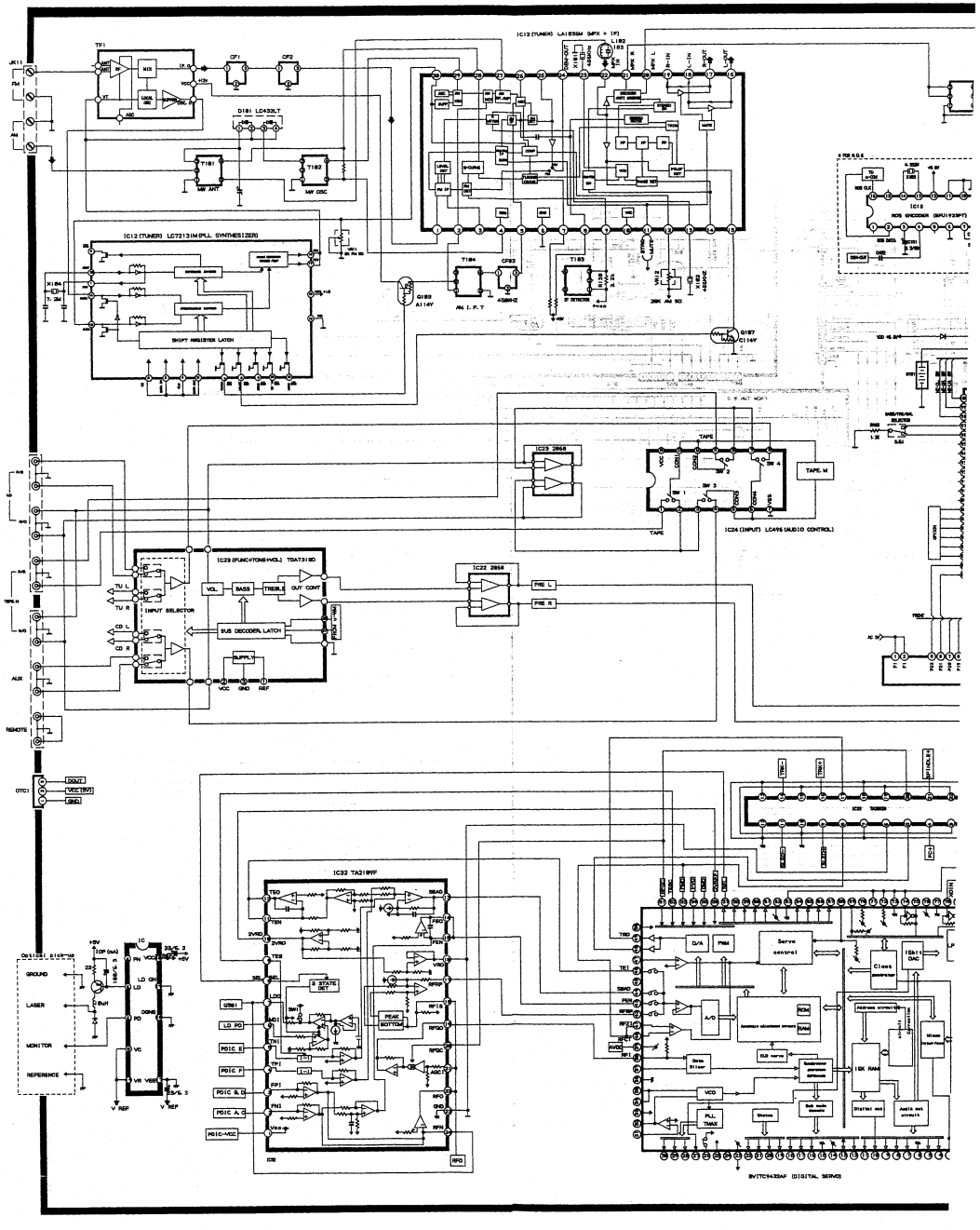
PIN No.	NAME	I/O	FUNCTIONAL DESCRIPTION	REMARKS
68	$\overline{\text{DMOUT}}$	I	This terminal controls IO0–IO3 terminal. At "L" level time, IO0, 1 out feed equalizer signal of 2-state PWM. IO2, 3 out disk equalizer signal of 2-state PWM.	With pull-up resistor.
69	$\overline{\text{CKSE}}$	I	Normally, keep at open.	With pull-up resistor.
70	$\overline{\text{DACT}}$	I	DAC test mode terminal. Normally, keep at open.	With pull-up resistor.
71	TESIN	I	Test input terminal. Normally, keep at "L" level.	Analog input.
72	TESIO1	I	Test input/output terminal. Normally, keep at "L" level.	Analog input.
73	VSS	-	Digital GND terminal.	-
74	PXI	I	Crystal oscillator connecting input terminal for DSP. Normally, keep at "L" level.	-
75	PXO	O	Crystal oscillator connecting output terminal for DSP.	
76	VDD	-	Digital power supply voltage terminal.	-
77	XVSS	-	Oscillator GND terminal for system clock.	-
78	XI	I	Crystal oscillator connecting input terminal for system clock.	-
79	XO	O	Crystal oscillator connecting output terminal for system clock.	-
80	XVDD	-	Oscillator power supply voltage terminal for system clock.	-
81	DVSR	-	Analog GND terminal for DA converter. (R-ch)	-
82	RO	O	R channel data forward output terminal.	-
83	DVDD	-	Analog supply voltage terminal for DA converter.	-
84	DVR	-	Reference voltage terminal for DA converter.	-
85	LO	O	L channel data forward output terminal.	-
86	DVSL	-	Analog GND terminal for DA converter. (L-ch)	-
87	TEST1	I	Test mode terminal. Normal, keep at open.	With pull-up resistor.
88	TEST2	I	Test mode terminal. Normal, keep at open.	With pull-up resistor.
89	TEST3	I	Test mode terminal. Normal, keep at open.	With pull-up resistor.
90	BUS0	I/O	Micom interface data input/output terminal.	Schmit input. With pull-up resistor.
91	BUS1	I/O		
92	BUS2	I/O		
93	BUS3	I/O		
94	VDD	-	Digital Ppower supply voltage terminal.	-
95	VSS	-	Digital GND terminal.	-
96	BUCK	I	Micom interface clock input terminal.	Schmit input.
97	$\overline{\text{CCE}}$	I	Command and data sending/receiving chip enable signal input terminal. The bus line becomes active at "L" level.	Schmit input.
98	TEST4	I	Test mode terminal. Normal, keep at open.	With pull-up resistor.
99	$\overline{\text{TSMOD}}$	I	Local test mode selection terminal.	With pull-up resistor.
100	$\overline{\text{RST}}$	I	Reset signal input terminal. Reset at "L" level.	With pull-up resistor.

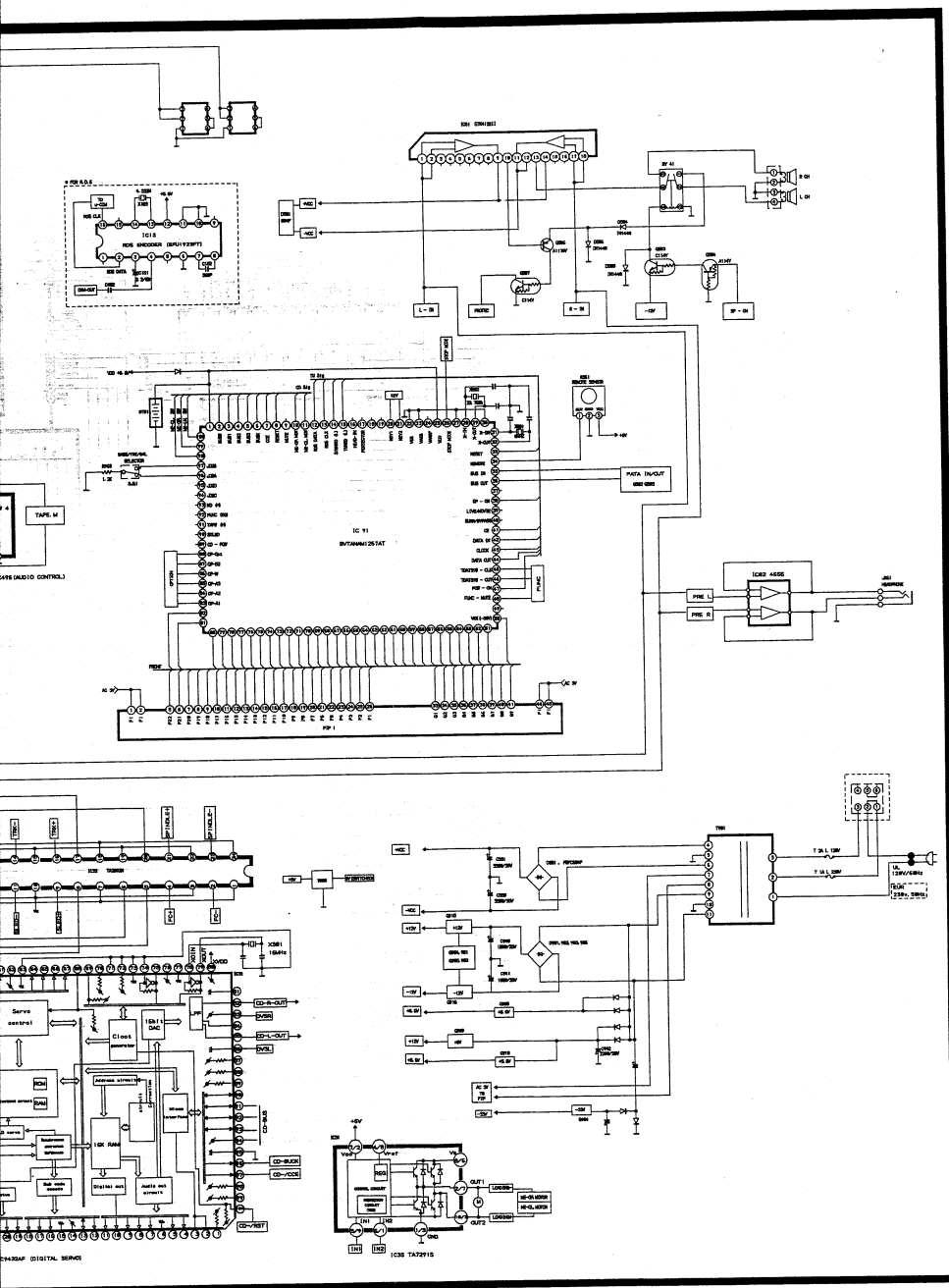


WIRING DIAGRAM

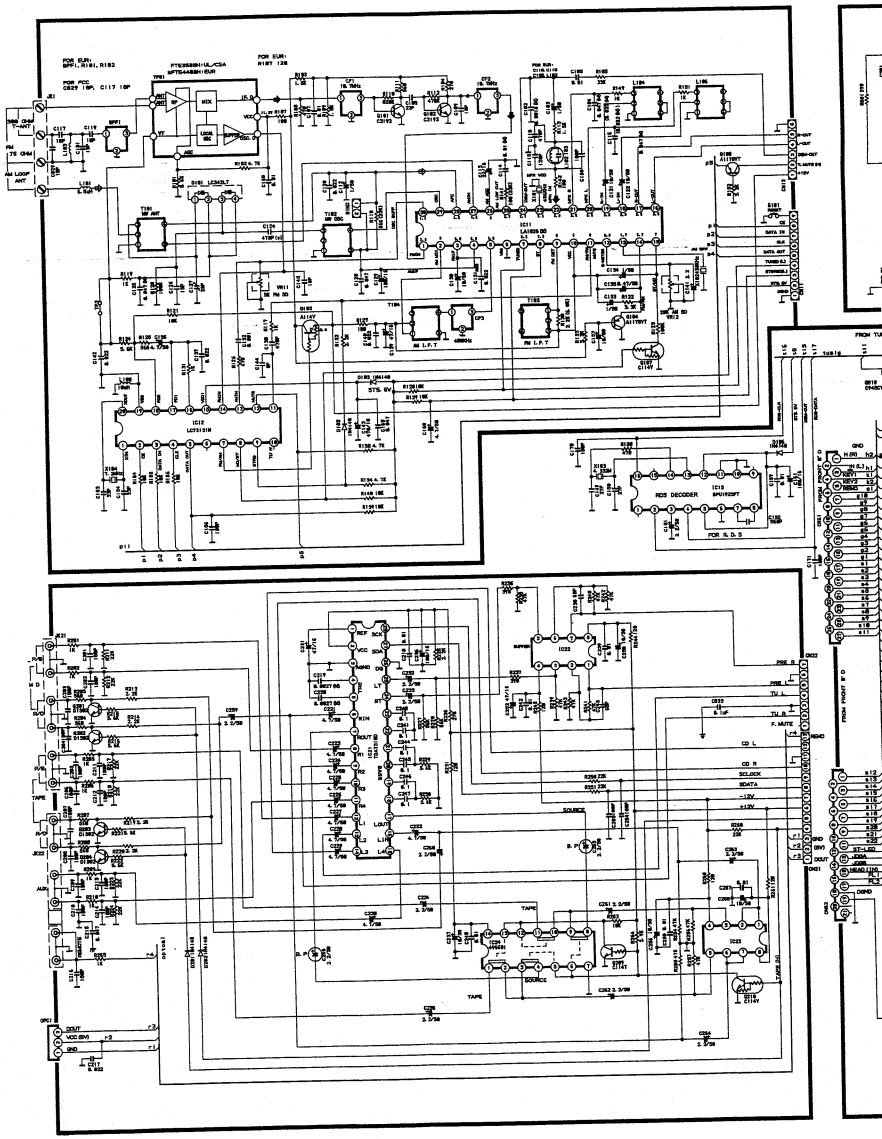


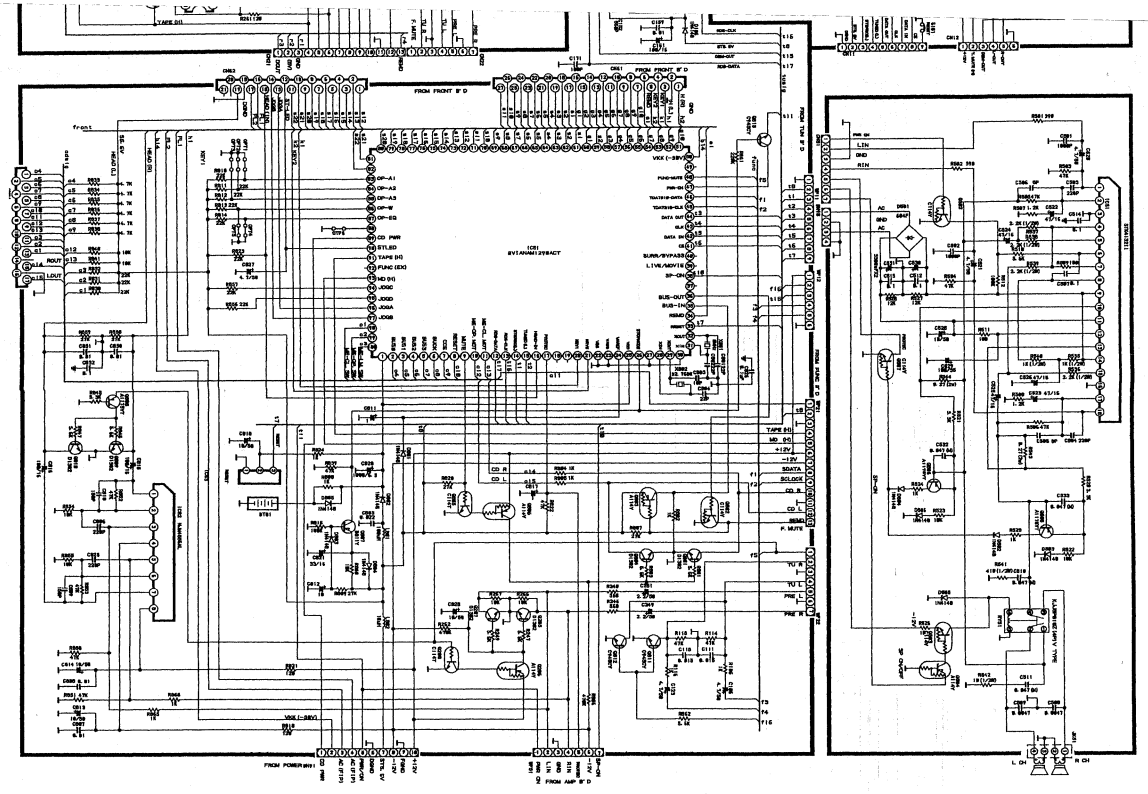
BLOCK DIAGRAM

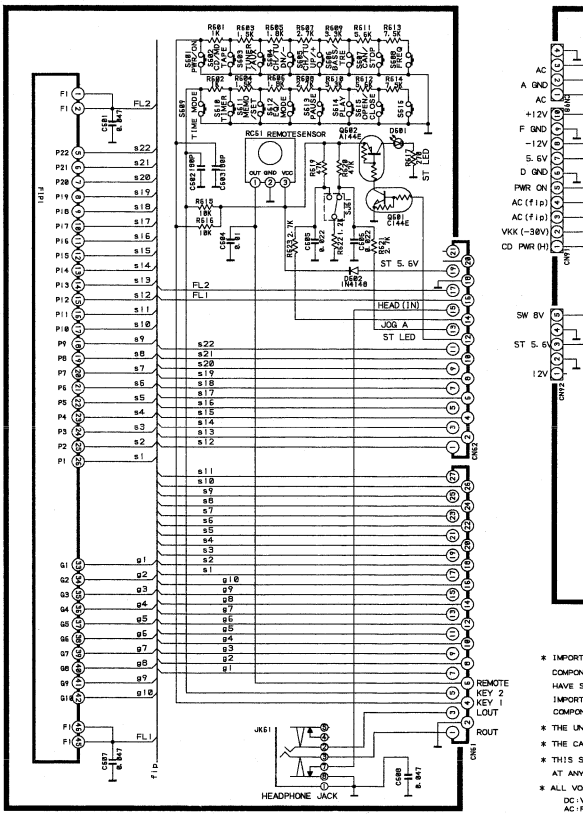


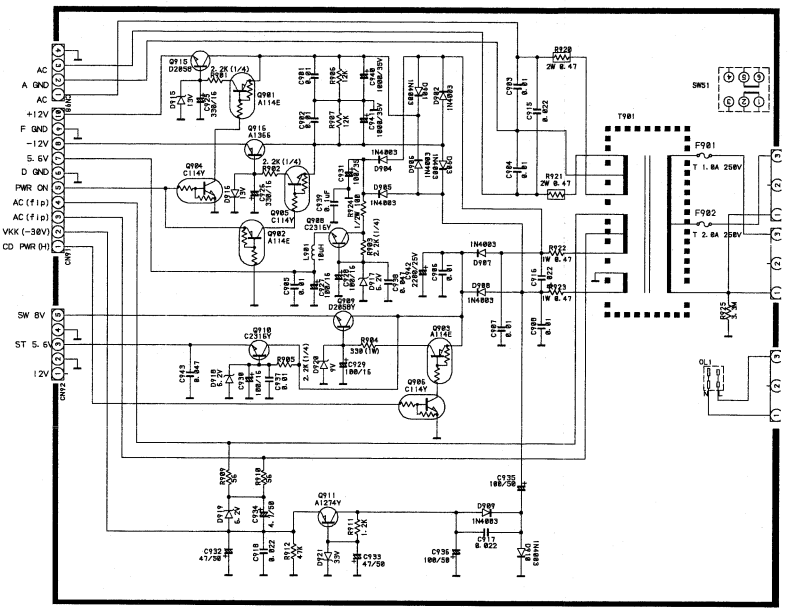

IC18
IC 91
SVT4MM1257AT
PATA IN/OUT
TAPE M
PRE L
PRE R
Servo control
Clock generator
16bit DAC
RAM
ROM
CD-R-OUT
CD-L-OUT
CD-BUCK
CD-VDD
CD-VRST
IC35 TA7291S
IC39 TA2033AF (DIGITAL SERVO)

SCHEMATIC DIAGRAM

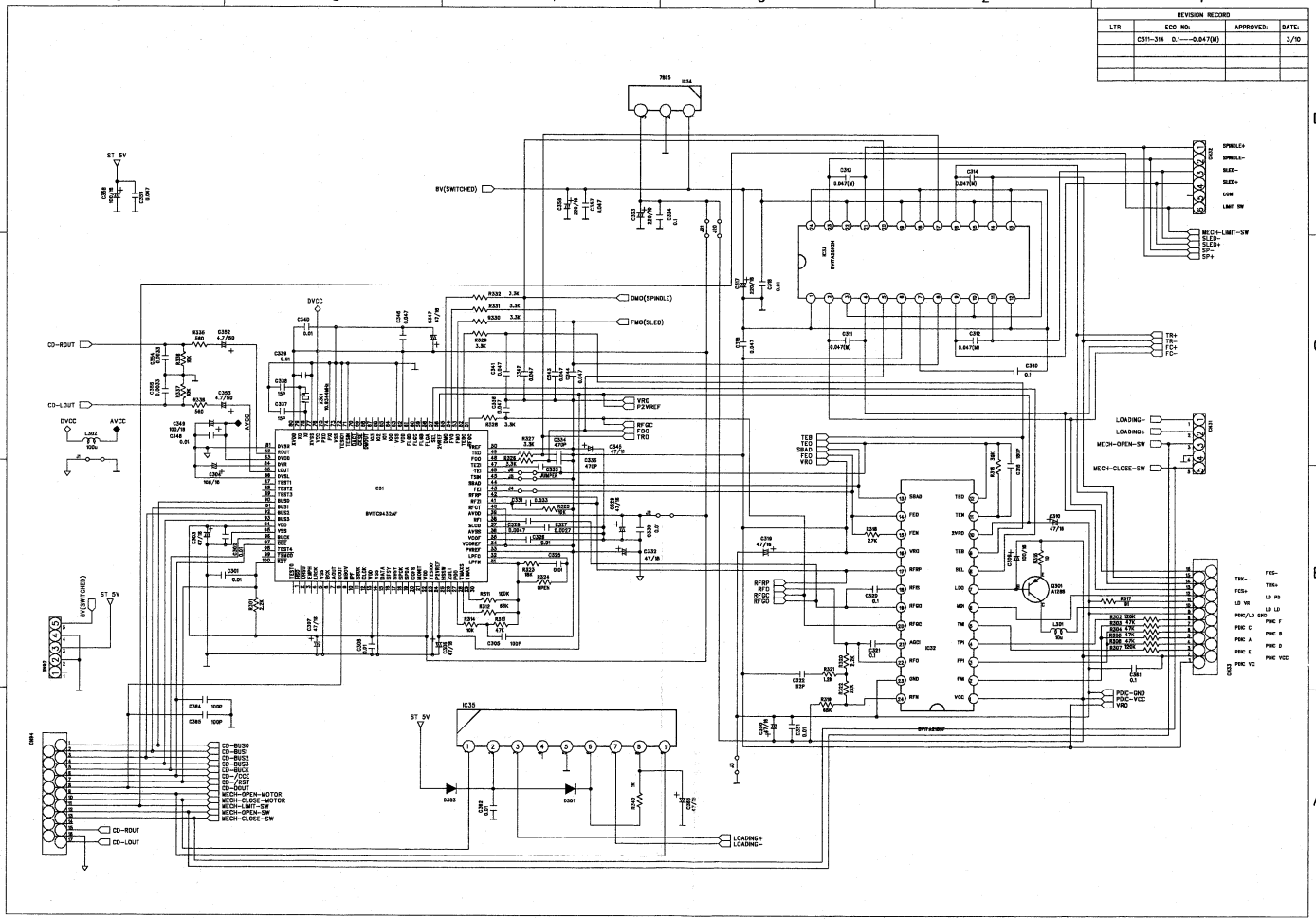




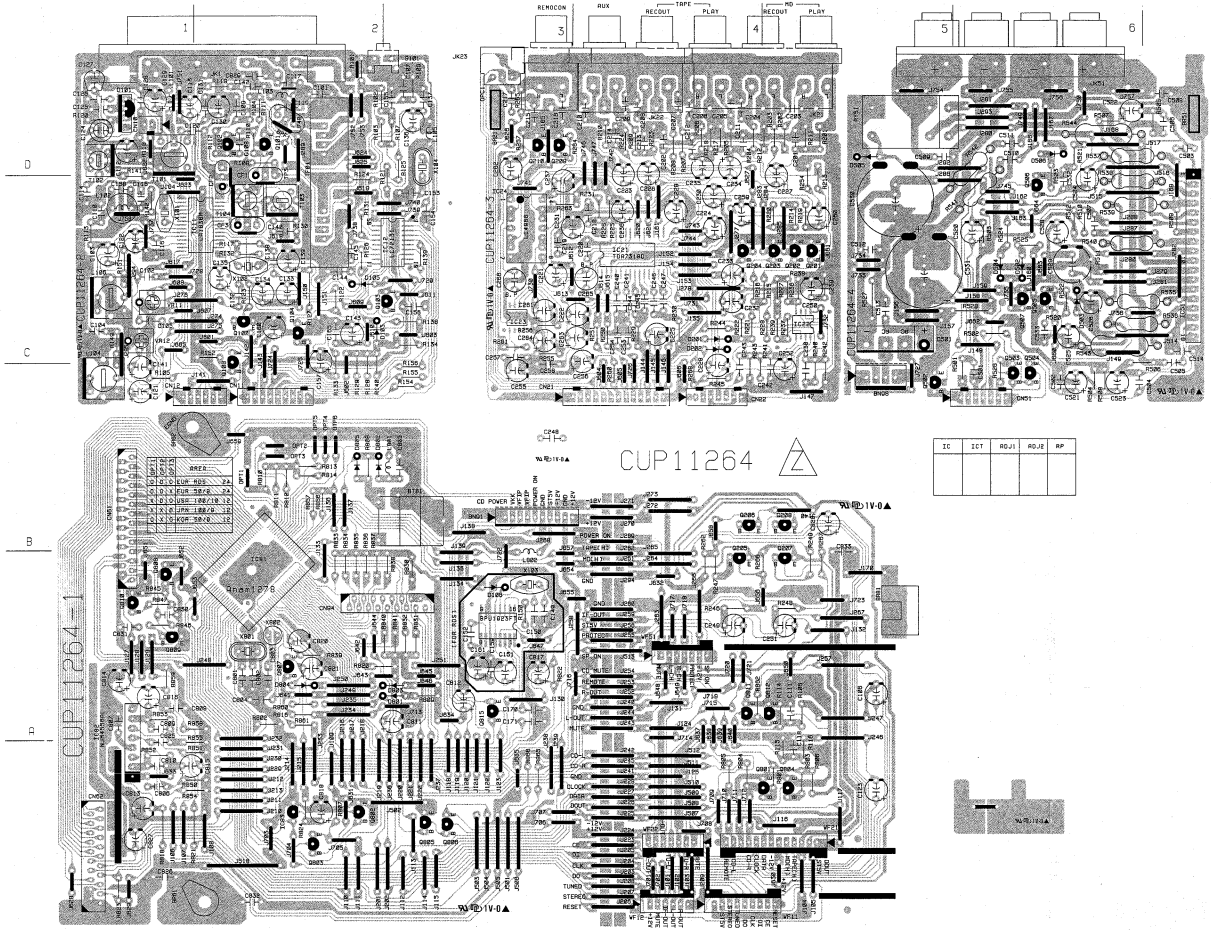


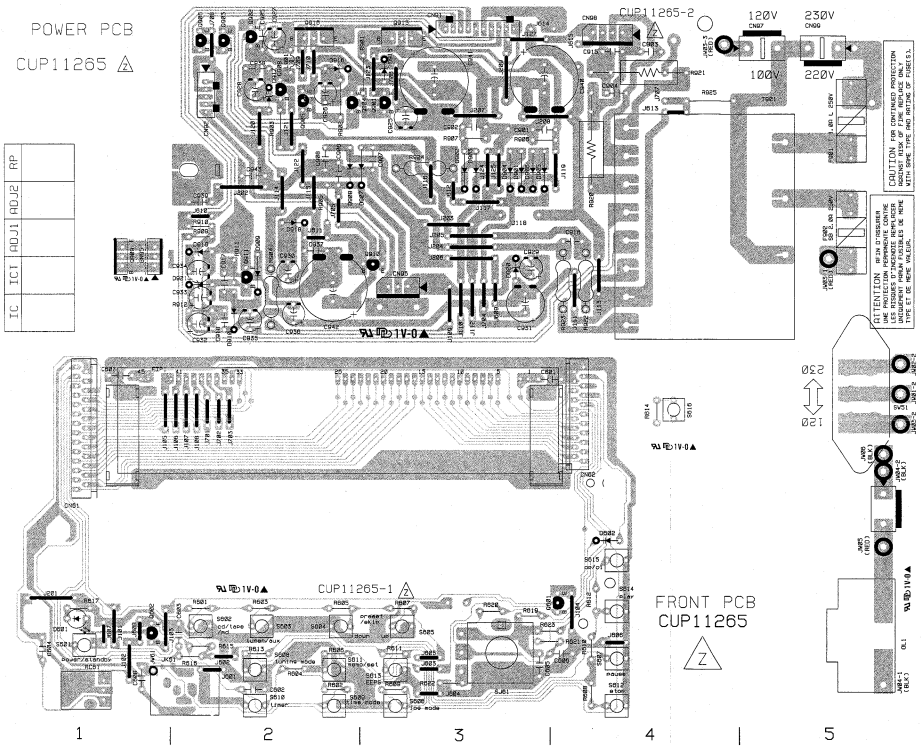


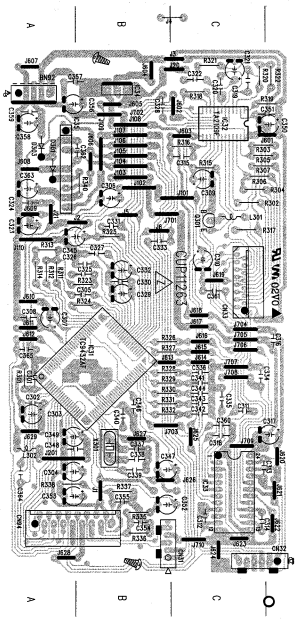
* IMPORTANT SAEFTY NOTICE :
  COMPONENTS IDENTIFIED BY ⚠ MARK
  HAVE SPECIAL CHARACTERISTICS.
  IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE
  COMPONENTS USE ONLY MANUFACTURER'S SPECIFIED PART.
* THE UNIT OF RESISTANCE IS OHM, K=1000 OHM, M=1000 KOHM.
* THE CAPACITANCE IS MICROFARAD P=PICO FARAD
* THIS SCHEMATIC DIAGRAM MAY BE MODIFYED
  AT ANY TIME WITH THE IMPROVEMENT OF PERFORMANCE.
* ALL VOLTAGE ARE MEASURED WITH GROUND.
  DC:VALUES WITH NO SINGAL
  AC:RMS


REVISION RECORD
LTR
ECO NO:
APPROVED:
DATE:
C311~314 0.1——0.047(M)
3/10
6
5
4
3
2
1
D
C
B
A
25
26
ST 5V
BV(SWITCHED)
DMO(SPINDLE)
FMO(SLED)
DVCC
AVCC
CD-RDUT
CD-LDUT
IC31
BVHC4432AF
IC32
BVHC4288F
IC33
BVHC4288N
IC35
SPINDLE+
SPINDLE-
SLED-
SLED+
COM
LIMIT SW
MECH-LIMIT-SW
SLED-
SLED+
SP-
SP+
LOADING-
LOADING+
MECH-OPEN-SW
MECH-CLOSE-SW
CD-BUS0
CD-BUS1
CD-BUS2
CD-BUS3
CD-/CSE
CD-/RST
CD-DOUT
MECH-OPEN-MOTOR
MECH-CLOSE-MOTOR
MECH-LIMIT-SW
MECH-OPEN-SW
MECH-CLOSE-SW
CD-RDUT
CD-LDUT
LOADING+
LOADING-
TRK-
TRK+
FCS-
FCS+
LD V0
PDIC/LD GND
PDIC-GND
PDIC-VCC
VRD

PRINTED CIRCUIT BOARDS

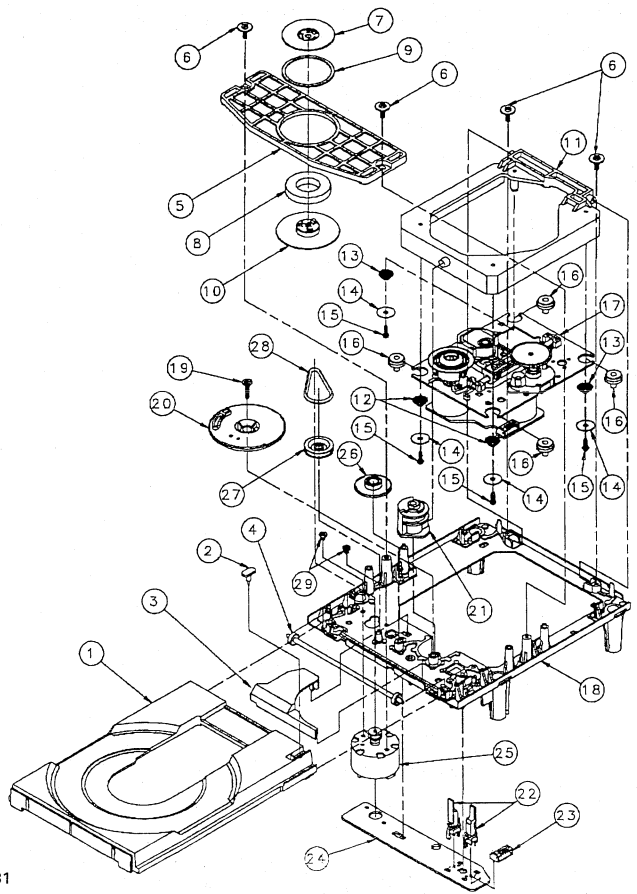



POWER PCB
CUP11265 Z
IC
IC1
ADJ1
ADJ2
RP
CUP11265-2
120V
230V
100V
220V
CAUTION FOR CONTINUED PROTECTION
ATTENTION
CUP11265-1
FRONT PCB
CUP11265
Z
230
120
A
B
C
D
1
2
3
4
5



MECHANISM ASS'Y

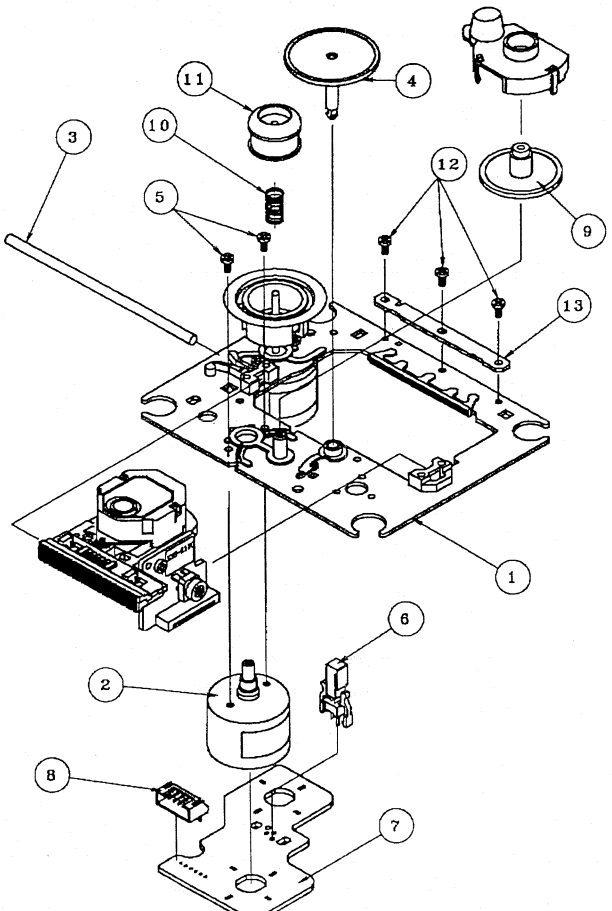
KSL-2130CCM 分解図
Disassembly Drawing



MECHANISM KSL2130CCM VIEW-1

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
1- 1	9A07979600	TRAY (C)	2-646-290-01
		VACANT	
1- 3	9A07979700	GEAR COVER (S)	2-625-544-01
1- 4	9A07268500	TRAY GEAR (S)	2-625-535-01
1- 5	9A07268900	CHUCKING PLATE	2-625-546-01
1- 6	9A07269900	+PTPWH 2.6*7	2-626-294-01
1- 7	9A06965300	YOKE (S), CHUCKING	2-625-537-01
1- 8	9A06965400	MAGNET	1-452-493-21
1- 9	9A07268700	DAMPA	2-625-541-02
1-10	9A07979800	CHUCKING PULLY	2-625-548-01
1-11	9A07979900	SUB CHASSIS 2130	2-646-288-01
1-12	9A07980000	COIL SPRING (FRONT)	2-627-236-01
1-13	9A07980100	COIL SPRING (BACK)	2-627-235-01
1-14	9A07980200	WASHER 2130	2-646-289-01
1-15	9A07980300	SCREW +P2.6*10	7-685-135-11
1-16	9A07980400	INSULATOR	2-627-234-01
1-17	9A07980500	MD ASS'Y	A-4912-186-A
1-18	9A07980600	OUTSERT MAIN CHASSIS (S)	2-625-552-06
1-19	9A06966200	SCREW + PTPWH 2.6X16	3-319-501-51
1-20	9A07980700	DRIVE GEAR (S)	2-625-547-01
1-21	9A07269000	CONTROL CAM (S)	2-625-545-04
1-22	9A07268000	LEAF SW	1-692-667-11
1-23	9A06966600	PIN, CONNECTOR 5P	1-564-721-11
1-24	9A06966700	PC BOARD, LOADING	1-640-523-11
1-25	9A06966800	MOTOR ASSY, LOADING	X-2625-117-1
1-26	9A07980800	MIDWAY GEAR (S)	2-625-274-02
1-27	9A07268600	LOADING PULLY	2-625-536-02
1-28	9A07980900	LM BELT	3-653-387-00
1-29	9A06967200	SCREW +B2.6X2.5	2-625-279-01

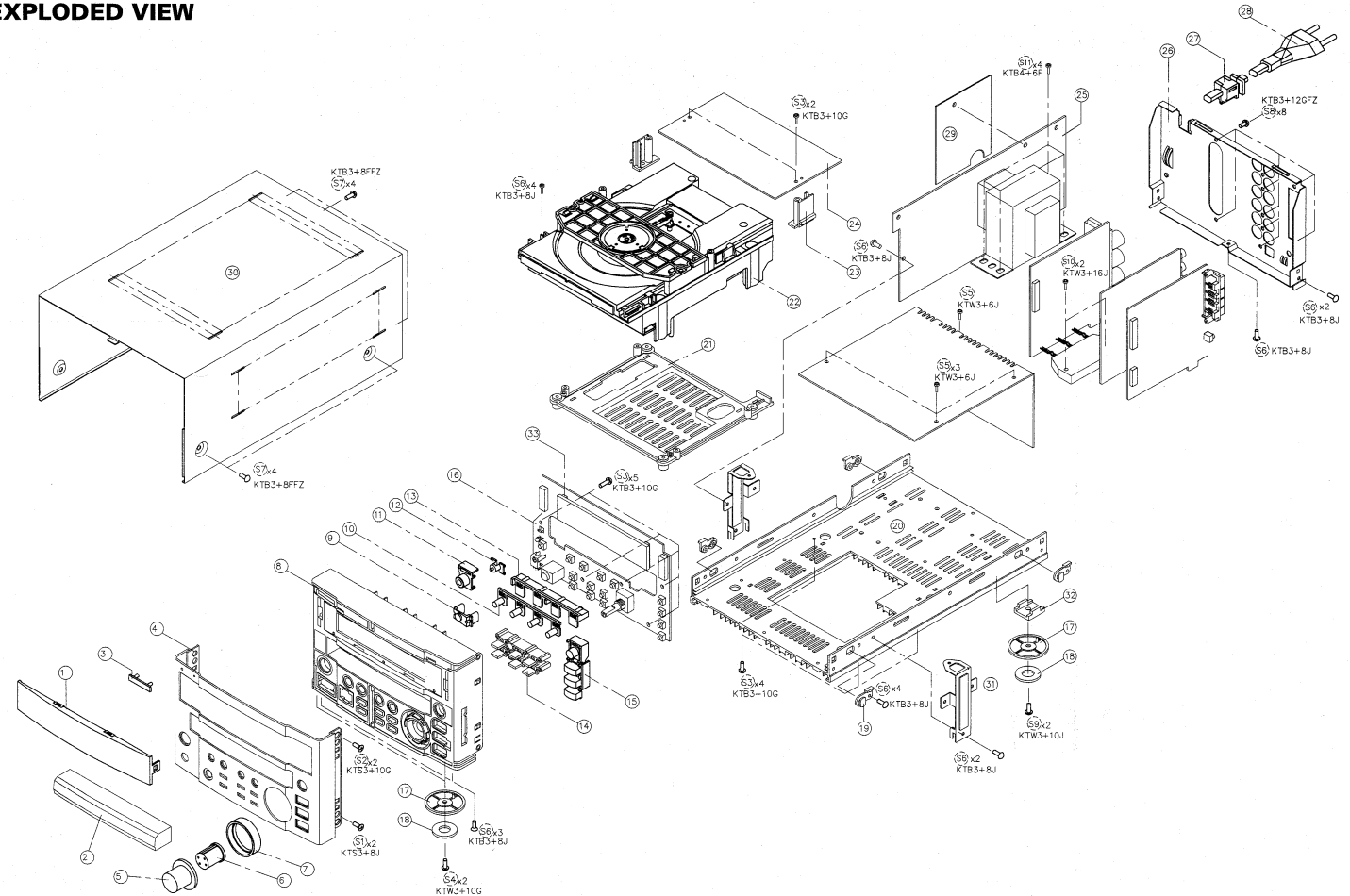
KSM-213CCM 分解図
Disassembly Drawing



MECHANISM KSL2130CCM VIEW-2

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
2- 1	9A07981000	MOTOR CHASSIS ASS'Y (MB)	X-2625-984-1
2- 2	9A07981100	MOTOR GEAR ASS'Y	X-2625-769-1
2- 3	9A07269800	SLED SHAFT (S)	2-626-908-01
2- 4	9A07981200	GEAR (A)(S)	2-625-188-02
2- 5	9A06968600	SCREW +P2X3	7-621-255-15
2- 6	9A07981300	LEAF SWITCH	1-572-085-11
2- 7	9A06968300	PC BOARD MOTOR (6P) (S)	1-639-678-12
2- 8	9A06968500	PIN, CONNECTOR 6P	1-564-722-11
2- 9	9A07981400	GEAR (B)(RP)	2-627-003-02
2-10	9A07981500	SPRING (S),COMPRESSION	2-625-191-01
2-11	9A06967800	RING (LO)(S),CENTER	2-625-477-01
2-12	9A06967500	SCREW (2X5), TAPPING (S)	2-641-386-01
2-13	9A06967600	REINFORCEMENT(S)	2-625-625-01

EXPLODED VIEW



EXPLODED VIEW

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
1	9A07871900	WINDOW , FIP	CGU1A210Z
2	9A07871800	DOOR , ORNAMENT	CGR1A166M9ZK80
3	9A07889100	BADGE , TEAC H100	KGB1A080
4	9A07891400	PANEL , FRONT(AL)	KKM1A088ZC11
5	9A07889200	CAP , KNOB	KGX1A270C11
6	9A07888800	KNOB , ROTARY	KBN2A108
7	9A07889400	HOUSING , ORNAMENT	KGX1A271C12
8	9A07872200	PANEL , SUB	CGW1A258M9K80
9	9A07872000	WINDOW , SENSOR	CGU1A211
10	9A07871300	KNOB , POWER	CBT1A637M9K80
11	9A07888900	KNOB , FUNCTION(A)	KBT1A638M9C13
12	9A07871700	INDICATOR , POWER	CGL1A169
13	9A07871400	KNOB , FUNCTION(B)	CBT1A639M9
14	9A07871600	KNOB , TACT(A)	CBT1A644M9K80
15	9A07871500	KNOB , PLAY	CBT1A642M9ZK80
16		PCB , SUB	
17	9A07872900	FOOT	CKL1A059M9K63
18	9A07889500	CUSHION , FOOT	KHG1A165
19	9A07873500	LOCKER , TOP	CMH1A088
20	9A07878700	CHASSIS , BOTTOM	CUA1A175
21	9A07873600	SUPPORT , MECHA	CMH1A091
22	9A07870900	MECHANISM KSL2130CCM	BJDKSL2130CCM
23	9A07891600	SUPPORT , PCB	KMH1A092
24		PCB , CD	
25		PCB, POWER	
26	9A07891300	PANEL , REAR	KKF1A177Z
27 ⚠	9A06754900	BUSHING,AC CORD	KHR1A028
28 ⚠	9A07872600	CORD , POWER	CJA523FBY
⚠	9A07916700	CORD,POWER 2.5A 250V [E]	CJA2B043Z
⚠	9A07916800	CORD,POWER 2.5A 250V [UK]	CJA2E045Z
29	9A07891700	SHEET , INSULATOR	KMX1A094
30	9A07891200	CABINET , TOP	KKC2B100S21
31	9A07891500	BRACKET , PCB	KMD1A396
32	9A07873600	SUPPORT FOOT	CMH1A091-1
33	9A07290000	BRACKET, FLT	KMD1A374
S1	9A01397400	SCREW, KTS3+8J	KTS3+8J
S2	9A06871400	SCREW, KTS3+10G	KTS3+10G
S3	9A01420500	SCREW,KTB3+8G	KTB3+8G
S4	9A05985100	SCREW, KTW3+10G	KTW3+10G
S5	9A05966100	SCREW, KTW3+6J	KTW3+6J
S6	9A01535800	SCREW,KTB3+8J	KTB3+8J
S7	9A07873600	SCREW,KTB3+8FFZ	KTB3+8FFZ
S8	9A01397800	SCREW, KYB3+12JFZ	KYB3+12JFZ
S9	9A06700000	SCREW, KTW3+10J	KTW3+10J
S10	9A06028100	SCREW, KTW3+16J	KTW3+16J
S11	9A05338800	SCREW, KTB4+6F	KTB4+6F
	9A07888700	FUSE, 2A 250V	KBA2C2000TLU
	9A07918300	FUSE, 1A 250V	KBA2C1000TLE

INCLUDED ACCESSORIES

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
	9A06261200	ANT,FM T	KSA1A010Z
	9A07509200	OWNER'S MNL,E/F CR-H100	CQX1A528Z
	9A07871200	REMOCON TRANSMITTER ASS'Y	CARTCR-H100TCCC
	9A07892300	LOOP , ANT ASS'Y CR-H100T	KSA1A011Z
	9A05936000	CORD,PIN	KJS4N001Y

■ RESISTORS AND CAPACITORS

Notes : • Part numbers are indicated for most mechanical parts.
Please use this part number for parts order.
• IMPORTANT SAFETY NOTICE.
Components identified by ⚠ mark have special characteristics important for safety.
When replacing any of these components, use only manufacture's specified parts.
• The unit of resistance is OHM(Ω)
K=1000(Ω), M=1000(KΩ)
• The unit of capacitance is MICROFARED(μF)
P=10 $^{-6}$μF

■ Numbering System of Resistor

Example

CRD	25	F	J	101
Type	Wattage	Shape	Tolerance	Value

Resistor Type	Wattage	Tolerance
CRD: Carbon	20:1/5W	F:= ±1%
CRG: Metal Oxide	25:1/4W	J:= ±5%
	50:1/2W	K:= ±10%
	1:1W	
CRF:Metal Cement	2:2W	
	3:3W	

■ Numbering System of Capacitor

Example

HCKR	1H	101	K	B
Type	Voltage	Value	Tolerance	Peculiarity

Capacitor Type	Voltage		Tolerance
	ECEA Type	Other	
HCB:Ceramic	0J:6.3V	1H:50V DC	C: ±0.25pF
HCC:Ceramic	1A:10V	1:125V DC	G: ±2%
HCK:Ceramic	1C:16V	KC:400V AC	J: ±5%
HCQI:Polyester	1E:25V		K: ±10%
HCQP:Polypropylene	1H:50V		Z: +80%, −20%
HCQS:Polystyrol	1V:35V		

MAIN PCB ASS'Y

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
	9A07873800	MAIN PCB ASS'Y [US ,C]	COP11264B
	9A07873810	MAIN PCB ASS'Y [E]	COP11264C
	9A07873820	MAIN PCB ASS'Y [UK]	COP11264UK
	9A06544600	CERAMIC, FILTER	BVFE107MSHAT
	9A06544600	CERAMIC, FILTER	BVFE107MSHAT
	9A07879800	WIRE ASS'Y [US , C]	CWE8202040AA
	9A07880000	WIRE ASS'Y [US , C]	CWZNT20001
BN91	9A07879200	WIRE ASS'Y 10P , 50MM	CWB1C010050EN
BN98	9A07879400	WIRE ASS'Y 4P , 100MM	CWB1D004100BM
BT81	⚠ 9A06477400	BATTERY, GP35BVT3A3H	BABGP35BVT3A3H
C 530 ,531	⚠ 9A07883600	CAP , ELECT 3300/50V	HCEA1HH332E
C 820	⚠ 9A07882100	CAP , ELECT 1000/6.3V	HCEA0JH102T
CF03	9A07006300	FILTER CERAMIC	BVFPFB450JR3
CN10	9A06250600	WAFER	KJP02GA19ZM
CN11	9A07890200	CONNECTOR MOLEX35237-0910	KJP09GB99ZM
CN12	9A07889800	CONNECTOR MOLEX35237-0610	KJP06GB99ZM
CN21	9A07890400	CONNECTOR MOLEX35237-1310	KJP13GB99ZM
CN22 ,51	9A07890000	CONNECTOR MOLEX35237-0710	KJP07GB99ZM
CN61	9A07891000	WAFER, CARD CABLE GF120-2	KJP27GA115ZG
CN62	9A07890800	WAFER, CARD CABLE GF120-2	KJP21GA115ZG
CN94	9A07890600	WAFER, CARD CABLE GF120-1	KJP17GA115ZG
D 101	9A06767400	D, SVC342LT	BVDSVC342LT
D 103 ,105	9A07887200	DIODE 1SS131M	HVD1SS131MT
D 201 ,202	9A07887200	DIODE 1SS131M	HVD1SS131MT
D 501	⚠ 9A06224900	DIODE, BRIDGE PBU604F	BVDPBU604F
D 502 ,503	9A07887200	DIODE 1SS131M	HVD1SS131MT
D 504 ,505	9A07887200	DIODE 1SS131M	HVD1SS131MT
D 506 ,801	9A07887200	DIODE 1SS131M	HVD1SS131MT
D 802 ,803	9A07887200	DIODE 1SS131M	HVD1SS131MT
D 804 ,805	9A07887200	DIODE 1SS131M	HVD1SS131MT
IC11	⚠ 9A06767500	IC, LA1836M	BVILA1836M
IC12	9A07326300	IC, PLL	BVILC72131M
IC21	9A05425000	IC, (VOLUME+FUNCTION)	BVITDA7318D
IC22 ,23	9A07343300	IC, OP AMP NJM2068MDTE1	BVINJM2068MDTE1
IC24	9A05971200	IC, LC4966	BVILC4966
IC51	9A05424900	IC, AMP STK4132(2)	BVISTK4132(2)
IC81	9A07871000	IC, MICOM TMP87PM78F	BVIANAM1290ACT
IC82	9A06760100	IC, NJM4556AL	BVINJM4556AL
IC83	9A06878400	VOLTAGE DETECTOR	BVIRE5VL30CARZ
JK01	9A07371900	TERMINAL, ANT [US , C]	KJJ3G011Z
JK01	9A07491300	TERMINAL, ANT [E , UK]	KJJ3G0092
JK21	9A07872700	TERMINAL, IN/OUT	CJJ4R012Z
JK22	9A07889600	JACK, PIN BOARD JK06009	KJJ4R018Z
JK51	9A07872800	TERMINAL, S.P (SCREW)	CJJ5P016Z
L 101	9A07502100	WIRE, COPPER [US , C]	K3A206
L 105	9A07886600	COIL , AXAIL 10UH	HLQ02C100KT
L 801	9A07886700	COIL , AXAIL 100UH	HLQ02C101JT
L 802	9A07886600	COIL , AXAIL 10UH	HLQ02C100KT
OP1	9A06239100	MODULE , OPTICAL	BJS9L001Z
Q 101 ,102	9A07888400	T.R KTC3192O	HVTKTC3192OT
Q 103	9A07887700	T.R DTA114YS	HVTDTA114YST
Q 104	9A03745100	T.R, KSA1175-YTA	KVTKSA1175YT
Q 107	9A07887800	T.R DTC114YS	HVTDTC114YST
Q 108	9A03745100	T.R, KSA1175-YTA	KVTKSA1175YT
Q 201 ,202	9A07888500	T.R KTD1302	HVTKTD1302T

MAIN PCB ASS'Y

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
Q 203 ,204	9A07888500	T.R KTD1302	HVTKTD1302T
Q 205	9A07888500	T.R KTD1302	HVTKTD1302T
Q 206	9A07887700	T.R DTA114YS	HVTDTA114YST
Q 207	9A07888500	T.R KTD1302	HVTKTD1302T
Q 208 ,209	9A07887800	T.R DTC114YS	HVTDTC114YST
Q 210 ,502	9A07887800	T.R DTC114YS	HVTDTC114YST
Q 503	9A07887800	T.R DTC114YS	HVTDTC114YST
Q 504	9A07887700	T.R DTA114YS	HVTDTA114YST
Q 505 ,506	9A03745100	T.R, KSA1175-YTA	KVTKSA1175YT
Q 507	9A07887800	T.R DTC114YS	HVTDTC114YST
Q 801	9A07888500	T.R KTD1302	HVTKTD1302T
Q 802	9A07887800	T.R DTC114YS	HVTDTC114YST
Q 803	9A07887700	T.R DTA114YS	HVTDTA114YST
Q 804	9A07888500	T.R KTD1302	HVTKTD1302T
Q 805	9A07887800	T.R DTC114YS	HVTDTC114YST
Q 806	9A07887700	T.R DTA114YS	HVTDTA114YST
Q 807	9A07887900	T.R KSB811Y	HVTKSB811YT
Q 808	9A03745100	T.R KSA1175-YTA	KVTKSA1175YT
Q 809 ,810	9A07888500	T.R KTD1302	HVTKTD1302T
Q 811 ,812	9A01388800	T.R KSC945-YTA	KVTKSC945CYT
Q 815	9A01388800	T.R KSC945-YTA	KVTKSC945CYT
R 541 ,542 ⚠	9A05338000	R, METAL OXIDE FILM 1W 10	KRG1ANJ100H
R 543 ,544 ⚠	9A06062000	R, CEMENT 0.27 2W	KRF2CJR27H
RY51	9A07326100	RELAY	BSL4A010ZU
S 101	9A04882400	SW,TACT	KST1A010Z
T 101	9A07873000	COIL , AM ANT2	CLA2C005
T 102	9A07873300	COIL , AM OSC	CLO2B008Z
T 103	9A07873200	I.F.T , FM	CLI3B028Z
T 104	9A07873100	I.F.T , AM	CLI2B103-G
TF01	9A07886800	FRONT-END (UL) FTE3508T [US , C]	HNVFTE3508T
TF01	9A07918200	FRONT-END (EUR) FTE4400T [E , UK]	HNVFTE4400T
VR11	9A05940500	R, SEMI FIXED EVNDJAA03B53	BVN1PA502B01T
VR12	9A05317700	VR, SEMI FIX EVNDJAA03B24	BVN1PA203B01T
WF11	9A07890100	WAFER MOLEX35336-0910	KJP09GA98ZM
WF12	9A07889700	WAFER MOLEX35336-0610	KJP06GA98ZM
WF21	9A07890300	WAFER MOLEX35336-1310	KJP13GA98ZM
WF22 ,51	9A07889900	WAFER MOLEX35336-0710	KJP07GA98ZM
X 101	9A07491700	RESONATOR, CERAMIC	HVFZTB456F11
X 102	9A07491800	FILTER, CERAMIC	HVFLZU450C4N
X 104	9A04874300	CRYSTAL	KOX07200A200C
X 801	9A05193000	CRYSTAL, 08000E160C	KOX08000E160C
X 802	9A05188800	CRYSTAL, 32,768KHZ DT-38	BOX00032A120C

SUB PCB ASS'Y

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
	9A07873900	SUB PCB ASS'Y [US, C]	COP11265B
	9A07873910	SUB PCB ASS'Y [E]	COP11265C
	9A07873920	SUB PCB ASS'Y [UK]	COP11265UK
	9A07879000	PCB , SUB	CUP11265Z
BN95	9A07879300	WIRE ASS'Y	CWB1C903100BM
C 925 ,926	9A07882700	CAP , ELECT 330/16V	HCEA1CH331T
C 927 ,928	9A07882400	CAP , ELECT 100/16V	HCEA1CH101T
C 929 ,930	9A07882400	CAP , ELECT 100/16V	HCEA1CH101T
C 931	9A07884100	CAP , ELECT 100/35V	HCEA1VH101T
C 935 ,936	9A07883400	CAP , ELECT 100/50V	HCEA1HH101T
C 940 ,941 ⚠	9A07884200	CAP , ELECT 1000/35V	HCEA1VH102E
C 942 ⚠	9A07884300	CAP , ELECT 2200/35V	HCEA1VH222E
CN61	9A07891100	WAFER , CARD CAGF120-27S-L	KJP27GB116ZG
CN62	9A07890900	WAFER , CARD CAGF120-21S-L	KJP21GB116ZG
CN91	9A05330700	WAFER MOLEX 53014-1010	KJP10GA19ZM
CN92	9A05356400	WAFER MOLEX53014-0510	KJP05GA19ZM
CN95	9A05329100	WAFER MOLEX 5267-03A	KJP03GA01ZM
CN97	9A06674400	WAFER [US C]	KJP02KA060ZY
CN98	9A05329300	WAFER MOLEX 5267-04A	KJP04GA01ZM
CN99	9A06674400	WAFER [E , UK]	KJP02KA060ZY
D 601	9A05195000	LED , RED SLR342VCF02	KVD342VCF02T085
D 602	9A07887200	DIODE , 1SS131M	HVD1SS131MT
D 901-910	9A05194700	DIODE , 1N4003ST	KVD1N4003ST
D 915 ,916	9A07886900	DIODE , ZENER 13V ZENER	HVDMTZJ13BT
D 917 -919	9A07887100	DIODE , ZENER 6.2V ZENER	HVDMTZJ6.2BT
D 920	9A07892400	DIODE , ZENER 9.1V 1/2W	KVDUZ9.1BMT
D 921	9A07887000	DIODE , ZENER 33V ZENER	HVDMTZJ33BT
F 902	9A05328200	HOLDER , FUSE KJCFC5S	KJCFC5S
FI1	9A07889000	F.I.P SVA10MM17	KFLSVA10MM17
JK61	9A07886500	JACK , HANDPHONE	HJJ2D003Z
JW03	9A07879700	WIRE [US ,C]	CWEP202110VV
JW61	9A07879900	WIRE ASS'Y	CWZAMC660JW52
L 901	9A07886600	COIL , AXAIL 10UH	HLQ02C100KT
Q 601	9A07887800	T.R DTC114YS	HVTDTC114YST
Q 602 ,901	9A07887700	T.R DTA114YS	HVTDTA114YST
Q 902 ,903	9A07887700	T.R DTA114YS	HVTDTA114YST
Q 904 ,905	9A07887800	T.R DTC114YS	HVTDTC114YST
Q 906	9A07887800	T.R DTC114YS	HVTDTC114YST
Q 908 ,910	9A07888000	T.R KSC2316Y	HVTKSC2316YT
Q 909 ,915	9A07888600	T.R KTD2058	HVTKTD2058Y
Q 911	9A07888200	T.R KTA1274Y	HVTKTA1274YT
Q 916	9A07888300	T.R KTB1366Y	HVTKTB1366Y
R 904 ⚠	9A07892200	RES , METAL OXIDE FILM 33	KRG1ANJ331H
R 920 ,921 ⚠	9A06062000	R , CEMENT 0.27 2W	KRF2CJR27H
R 922 ,923 ⚠	9A06760900	R , FUSE 0.47 J 1W	KRQ1AJR47H
R 924	9A05890500	R , CARBON 1/2W 100	KRD50FJ101T
R 925	9A06761000	R , CARBON 3.3M K 1/2W	BRDERC12UGK335T
RC61	9A06757900	IC , PNA4612M00HB	BRVPNA4612M00HB
S 601-615	9A07878500	SW , TACT	CST1A012ZT
SJ61	9A07326200	VR , ENCODOR	BSR2A004Z
T 901	9A07873400	TRANS , POWER[MAIN] [US ,C]	CLT5P037ZU
T 901	9A07917300	TRANS , POWER [E , UK]	CTL5P037ZE

CD PCB ASS'Y

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
	9A07873700	CD PCB ASS'Y [US , C]	COP11263B
	9A07873710	CD PCB ASS'Y [E , UK]	COP11263C
	9A07878800	PCB , CD	CUP11263Z
BN92	9A07879100	WIRE ASS'Y 5P , 50MM	CWB1C050550EN
C 317	⚠ 9A07882600	CAP , ELECT 220/16V	HCEA1CH221T
C 323	⚠ 9A07882600	CAP , ELECT 220/16V	HCEA1CH221T
C 356	⚠ 9A07882600	CAP , ELECT 220/16V	HCEA1CH221T
CN31	9A05356400	WAFER , MOLEX53014-0510	KJP05GA19ZM
CN32	9A05329700	WAFER , MOLEX53014-0610	KJP06GA19ZM
CN33	9A07890500	WAFER , CARD CABLE 16P 1	KJP16GB113ZG
CN94	9A07890700	WAFER , CARD CABLE(ANGLE)G	KJP17GB116ZG
D 301 ,303	9A07887200	DIODE , 1SS131M	HVD1SS131MT
IC31	9A07887600	I.C , DIGITAL SERVO TC9432A	HVITC9432AF
IC32	9A07887400	I.C , RF DIGI SERVO TA2109F	HVITA2109F
IC33	⚠ 9A07887300	I.C , POWER DRIVER TA2092N	HVITA2092N
IC34	⚠ 9A07871100	I.C , NJM7805FA	BVINJM7805FA
IC35	⚠ 9A07887500	I.C , TA7291S	HVITA7291S
L 301	9A07886600	COIL , AXAIL 10UH	HLQ02C100KT
L 302	9A07886700	COIL , AXAIL 100UH	HLQ02C101JT
Q 301	9A07888100	T.R , TKTA1266YT	HVTKTA1266YT
X 301	9A05193100	CRYSTAL, 16934A120C	KOX16934A120C